COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

WILLIAM F. WELD
Governor

ARGEO PAUL CELLUCCI
Lt. Governor

TRUDY COXE
Secretary

DAVID B. STRUHS
Commissioner

Dear Sir/Madame:

Enclosed is a copy of the recently promulgated 310 CMR 7.02(15) U 25% or 50% Facility Emission Cap Notification regulation and summary, associated notification form and instructions. This regulation is a streamlined means to limit a facility's potential and actual emissions to either 50% or 25% of all the major source thresholds.

To participate, you are required to submit the notification form to the Department and indicate your intentions to comply with the 50% or 25% emissions limit cap. Incomplete submittals will be returned to you.

To affect a facility's annual compliance assurance fee, this change in status must be submitted to the Department prior to the end of the fiscal year (June 30). Electing to comply with this regulation does not affect the facility's compliance assurance fee bill due in January 1997. The earliest billing cycle to be affected: FY 98.

Please return the completed form to:

Department of Environmental Protection
Bureau of Waste Prevention
Division of Air Quality, 7th Floor
Att: Robert Boisselle
1 Winter Street
Boston, Massachusetts 02108

Should you have any questions with regards to this regulation, please contact the regional office of the Bureau of Waste Prevention.

Sincerely,

Barbara A. Kwetz, Director
Division of Air Quality Control

Enclosure

BWP AQ Emissions Notification Form

As a result of the lowering of the major source thresholds in the 1990 Clean Air Act to 50 Tons Per Year (TPY) NOx or VOC and creating the major source threshold of 10 TPY of any one listed Hazardous Air Pollutant (HAP) or 25 TYP of a combination of HAPs, there are many small facilities with potential emissions greater than these thresholds and operating with very low actual emissions. Examples include: paint spray operations, fleet maintenance sites, school fuel utilization facilities, small printing operations and job shops.

On October 4, 1996, 310 CMR 7.02(15), the "50% or 25% Facility Emission Cap Notification" regulation, became effective. This regulation is a streamlined means to limit a facility's potential and actual emissions to either 50% or 25% of all the major source thresholds. In other words, if your facility has potential emissions equal to or greater than a major threshold or applicability threshold of a MACT standard, and you are willing to restrict your facility's actual and potential emissions to either 25% or 50% of said threshold by complying with the requirments (ie emission cap, record keeping and reporting), then you would complete the one page notification form and return it to the Department. There is no fee associated with this notification. Compliance with the facility wide emission cap would defer the facility's applicability to an otherwise applicable major source requirement such as Operating Permits (310 CMR 7.00: Appendix C), NOx and VOC RACT (310 CMR 7.18 and 7.19). This notification process may also be used to establish an emissions cap to lower the facility's Annual Compliance Assurance Fee pursuant to 310 CMR 4.03(2) starting with Fiscal Year 1998 (FY98).

For example, when an owner or operator of a facility with potential emissions greater than a major threshold notifies the Department that they are limiting the facility's emissions to 50% of all major source thresholds, the facility would be limited to 25 tons of VOC or NOX and 50 tons each of SOX, PM and CO, 5 tons of any one listed HAP and 12.5 tons of any combination of HAPs, annually. This facility wide emissions cap in no way alters any short term emission rate nor does it alter an otherwise more restrictive long term emission rate for the facility or an individual emission unit.

To affect a facility's annual compliance assurance fee, this notification form must be submitted to the Department prior to the end of the fiscal year (June 30). Electing to comply with this regulation does not affect the facility's compliance assurance fee bill for Fiscal Year 97, due in January 1997.

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality

BWP AQ Emissions Notification

50% or 25% Facility Emission Cap

A Facility Information

1. Provide the following information:

Facility name | *Facility DAQC ID Number* | *FMF ID Number*

Street address

City/Town | *ZIP code*

Mailing address if different from above

City/Town | *ZIP code*

Contact Person | *Title* | *Phone Number*

B Notification Statement

1. Provide the information required for the following notification statement:

"I hereby notify DEP that this facility will operate in accordance with the general requirements of 310 CMR 7.02(15) and under the facility wide emission cap (check one):

☐ 310 CMR 7.02(15(e) (50% cap) or

☐ 310 CMR 7.02(15)(f) (25% cap)

in lieu of restricted emissions status or operating permit approval or other facility-wide cap where applicable. "

RES approval:

Number | *date*

or operating permit:

Number | *date*

or other facility-wide cap approval:

Number | *date*

2. Facility wide emissions summary:

Actual Emissions	**Tons Per Year ____ (previous calendar year)**
Particulate	
PM10	
SOx	
NOx	
VOC	
CO	
Lead	
HAPs	

C Certification

"I certify that I have personally examined the foregoing and am familiar with the information contained in this document and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."

Signed under the pains and penalties of perjury:

Signature

Print Name

Title

Date

For DEP Use only

Date Received | *DEP Signature/Initials*

Date SEIS Updated | *DEP Signature/Initials*

Date FMF Updated | *DEP Signature/Initials*

Facility wide emissions cap:

☐ 25% ☐ 50%

☐ 25% ☐ 50%

LINE BY LINE DIRECTIONS FOR COMPLETING
BWPAQ 50% - 25% NOTIFICATION FORM

A. ***Facility Information***

1. **Facility Name:** The actual local facility name, not the corporate or other name.

Street Address: The physical location of the facility.

City, State, Zip Code: City name, State and nine digit zip code (if known) of the facility.

Mailing Address: Complete if different from address above, otherwise write "SAME".

Contact Person: Person located within the facility who is completing the application or a person at the facility familiar with the notification and plant operations.

Title: Title/position of contact person.

Telephone Number: Area code, number and any extension of the person named as contact.

Facility DAQC or FMF ID Number: DAQC number is a four digit identifier issued by the Division and found in the upper right "RE block" of a preconstruction plans approval or NON. The FMF number is found on the annual compliance assurance fee invoice. If not known, leave blank.

B. ***Notification Statement***

1. Please indicate ("checking one") which facility wide emission cap you are electing. In addition, list the RES, operating permit or other approval with a facility wide cap, where applicable, along with the approval number and date of issuance, which you are requesting the Department to rescind. You must affirmatively state by indicating "N/A" when the operation of the facility isn't governed by an existing operating permit (310 CMR 7.00: Appendix C), RES (310 CMR 7.02(12) or 310 CMR 7.02 plans approval.

2. **Facility wide emissions summary:** The ACTUAL emissions from all activities at the facility for the previous calendar year. Please indicate "year".

C. ***Certification***

The signature of the "responsible official" is required. Please PRINT name and title and date.

RETURN the completed form to: DEP/DAQC Attention: Robert Boisselle
1 Winter Street 7th Floor
Boston, Massachusetts 02108

Commonly asked questions:

How do I determine if my facility emits "criteria pollutants" or "regulated pollutants" or "Hazardous Air Pollutant"?

If your facility consists of a "boiler" or "industrial process", your facility emits a regulated pollutant and depending on your process, may emit a Hazardous Air Pollutant. In general, NOx and SOx emissions are emitted from your boiler(s) as a result of the combustion of fuel, and VOC emissions are emitted from industrial processes such as printing, leather coating and other paint spray operations and associated clean up solvents from the use of "raw materials" with volatile organic compounds in their formulations. This information is available on the MSDS (Material Safety Data Sheet) for the particular raw material.

Who can elect to comply with 310 CMR 7.02(15) as a facility wide emission cap for their facility?

Up until EPA's January 1995 guidance/policy on limiting potential to emit (PTE), the Division's (RES) Restricted Emission Status option was the means available for "existing" facilities to establish a federally enforceable limit on their potential emissions and opt out of the federally required operating permit program. 310 CMR 7.02, preconstruction plans approval, was the option available to limit the potential emissions of new "green field" construction, or when substantially reconstructing or altering a facility. This regulation is an additional means of limiting the facility's potential to emit.

An owner or operator of a facility with calculated (OR PERMITTED) Potential to Emit (PTE) greater than the major source thresholds for any of the criteria pollutants or 189 listed Hazardous Air Pollutants with actual emissions equal to or below 50% of these thresholds. A facility is considered "major" when the calculated or permitted potential emissions are equal to or greater than: 50 TPY NOX or VOC, 100 TPY other criteria pollutant; or 10 TPY of any one listed HAP or 25 TYP of a combination of HAPs.

In addition, starting with FY 98, this notification form can be used to establish a facility-wide cap on a facility's potential emissions for the purposes of lowering the facility's annual compliance assurance fee pursuant to 310 CMR 4.03. To affect this fee, the notification form must be received by the Department by June 30.

How will the emission cap affect my facility?

Electing one of the facility wide emissions caps limits actual and potential emissions, on a rolling 12 month basis, from the facility to either a maximum of 25% or a maximum of 50% of the major thresholds for all regulated pollutants and HAPs.

How will the emissions cap affect my compliance assurance fee (CAF)?

The Department amended its fee regulations in 1996 and starting in FY 98 (July 1,1997), established a three tiere non major compliance assurance fee (CAF) under 310 CMR 4.00. Electing to comply with one of the emissions caps can lower your CAF. For example, if you are operating under an RES (CAF of $1000) and can comply with either the 50% or 25% cap on emissions **for all pollutants** (CAFs $450 and $150 respectively) then you could consider notifying the DEP (via the notification form) that your facility will comply with either the 50% and 25% emissions cap.

Another example is a facility with potential emissions just below the major thresholds (48 VOC or 98 SOX) via a 310 CMR 7.02 plans approval, and currently paying $150. The CAF in FY98 is $1000. If review of the facility operations indicates that its actual emissions are below one of the emissions caps, and that you don't need high potential emissions, then you could consider notifying the Department that you will comply with 310 CMR 7.02(15)(e) or (f).

The following table illustrates the relationship between the facility wide emissions and the CAF.

	FACILITY WIDE EMISSION CAP TONS PER YEAR			
CRITERIA POLLUTANT or HAP	MAJOR SOURCE	< MAJOR SOURCE or RES	≤ 50% MAJOR SOURCE THRESHOLDS	≤ 25% MAJOR SOURCE THRESHOLDS
VOC	50	< 50	≤ 25	≤ 15
NOX	50	< 50	≤ 25	≤ 15
SOX	100	< 99	≤ 50	≤ 25
CO	100	< 99	≤ 50	≤ 25
PM or PM10	100	< 99	≤ 50	≤ 25
SINGLE HAP*	10	< 99	≤ 5	≤ 2.5
COMBINATION HAP*	25	< 24	≤ 12.5	≤ 6.25
COMPLIANCE ASSURANCE FEE	determined by equation	$1000	$450	$150

* Applicability to "major" for HAP is either 10 TPY of any one listed chemical or 25TPY for any combination of listed chemicals.

AND what happens to a previously issued approval(s)?

Complying with a facility wide emissions cap pursuant to 310 CMR 7.02(15) does not relieve the owners/operator's responsibility to comply with an emission unit's individual short term or more restrictive long term emission rate. As an example, if a surface coating operation is limited to 4.8# VOC/gal solid and 10 TPY via a 310 CMR 7.02(2) preconstruction plan approval or federally enforceable regulation, the short term limit (4.8 # VOC/gal solid) is still in effect, and the long term limit (10 TPY) is not raised to 25 tons via compliance with 310 CMR 7.02(15).

The only exception to this is that the emission rates established in a facility RES pursuant to 310 CMR 7.02(12) are rescinded when the owner/operator receives a processed BWP AQ Emissions Notification form back from the Department.

Finally, it does not eliminate the need for preconstruction plans review under 310 CMR 7.02(4).

What is the benefit of complying with this regulation?

This is a "self certifying" regulation and therefore a streamlined way to defer a facility's resonsibilties pursuant to "major source status". In addition, starting with FY 98, this regulation may be used to limit the facility's potential emissions to lower the facility's Annual Compliance Assurance Fee. The Department must be in reciept of your BWP AQ Emissions Notification form by June 30 to affect the facility's Annual Compliance Assurance fee.

What is a "rolling 12 month emission" limit?

To make an emissions cap enforceable in a practical manner, the Department uses a "rolling 12 month emission limit". In other words, to determine compliance with the emissions cap, an owner/operator would calculate the facility's emissions for the most recent month and add it to the previous 11 month's emissions. To be in compliance, the resulting sum must be no greater than the established cap.

How do I know if my facility's potential emissions are greater than the major source thresholds?

By regulation, FEDERAL POTENTIAL TO EMIT or FEDERAL POTENTIAL EMISSIONS is defined in exacting detail. See 310 CMR 7.00 "Air Pollution Control" for the exact definition. For practical calculations, FEDERAL POTENTIAL TO EMIT or FEDERAL POTENTIAL EMISSIONS means the maximum capacity of a stationary source to emit a regulated pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a regulated pollutant, including air pollution control equipment and restriction on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable.

Basic Calculation:

(8760 hrs/yr) X (Maximum Emission Rate) = Annual Emissions

What "activities" at my facility are included in the determination of the facility's potential emissions?

By definition, FACILITY means any installation or establishment and associated equipment, located on the same, adjacent or contiguous property, capable or emissions and are under control of the same person. Activities which are exempt from plan review (for example, either by complying with 310 CMR 7.02(14) or a 310 CMR 7.03 category or below the applicability thresholds of 310 CMR 7.02(4)) are INCLUDED in determining the facility's potential.

The following activities are considered too trivial to include:

1. Open burning conducted in accordance with the requirements of 310 CMR 7.07(2), 7.07(3)(a) and 7.07(3)(e);
2. Office activities and the equipment and implements used therein, such as typewriters, printers, and pens;
3. Interior maintenance activities and the equipment and supplies used therein, such as janitorial cleaning products and air fresheners; this does not include any cleaning of production equipment or activities regulated by 310 CMR 7.18;
4. Bathroom and locker room ventilation and maintenance;
5. Copying and duplication activities for internal use and for support of office activities at the facility;
6. The activities not regulated by 310 CMR 7.18 in maintenance shops, such as welding, gluing, soldering;
7. First aid or emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation;
8. Laundry operations that service uniforms or other clothing used at the facility that are not regulated by 310 CMR 7.18;
9. Architectural maintenance activities conducted to take care of the buildings and structures at the facility, including repainting, reroofing, and sandblasting;
10. Exterior maintenance activities conducted to take care of the grounds of the facility, including parking lots and lawn maintenance;
11. Food preparation to service facility cafeterias and dining rooms;
12. The use of portable space heaters which reasonably can be carried and relocated by an employee;
13. Liquid petroleum gas (LPG) or petroleum fuels used to power the facility's mobile equipment and not otherwise regulated by the Department;
14. Emergency vents not subject to the accidental release regulations.
15. Surface coating and painting processes which exclusively use non-refillable aerosol cans;
16. Vacuum cleaning systems used exclusively for commercial or residential housekeeping;
17. Ventilating systems used exclusively for heating and cooling buildings, for the comfort of people living or working within the building serviced by said system, which EPA has determined need not be contained in an operating permit;
18. ventilating and exhaust systems for laboratory hoods used:
    a. by academic institutions for academic purposes.
    b. by hospitals and medical care facilities used for medical care purposes and medical research only.
    c. by laboratories which perform laboratory scale activities as defined by OSHA.
    d. by facilities for quality assurance and quality control testing and sampling activities.
19. surface coating and printing processes used exclusively for educational purposes in educational institutions that are not otherwise regulated by 310 CMR 7.18; and
20. kilns or ventilating hoods for art or ceramic curricula at colleges, primary or secondary schools.

How will I be notified that my facility's potential emissions have be limited under this regulation?

The Department will return a "stamped received" and signed copy to the owner or operator of the facility, and update the Department's data systems to reflect this action.

What types of records do I need to keep to document compliance with the facility wide emissions cap?

By regulation the owner or operator is directed to establish and maintain sufficient records to document compliance with the facility wide emissions cap on a rolling twelve month basis. See the regulations for details.

EXAMPLE LOG:

MONTHLY VOC USAGE TRACKING FORM

MONTH& YEAR	NAME OF VOC CONTAINING MATERIAL	VOC CONTENT (lbs. VOC/GAL)	GALLONS USED	VOC EMISSIONS (lbs)	ROLLING 12 MONTH EMISSIONS OF VOC (TONS)

FUEL USAGE TRACKING FORM

__/__/__ - __/__/__

MONTH & YEAR	FUEL TYPE & SULFUR CONTENT (#S/mmBtu): NO.6, NO.4; NO.2; NATURAL GAS; COAL;	AMOUNT OF FUEL USED: GALLONS, TONS or CUBIC FEET	HEAT VALUE: Btu/GAL Btu/TON Btu/mmCF	SULFUR DIOXIDE EMISSIONS (TONS)	ROLLING 12 MONTH EMISSION RATE: (TONS)

How do I calculate the potential emissions of my facility?

In calculating your facility's Potential Emissions, it is important to determine the "applicable" emission limitations, rate(s) and the maximum capacity of the operation.

Are there any Federal or State regulations which limit the operation(s) at the facility? These would include: federal NSPS and NESHAPS, 310 CMR 7.02 preconstruction approvals, RACT limits established in either regulation or source specific approvals; or emission limits found in 310 CMR 7.00: Air Pollution Control Regulations such as 310 CMR 7.02, 7.03, 7.05, 7.02(8) etc.

Once you have determined the applicable emission rate/limit for your process, and that can be the MAXIMUM capacity of the equipment if there isn't an otherwise applicable limit, calculating Potential emissions is determined by the following equation:

[[MAXIMUM CAPACITY or ENFORCEABLE LIMIT] X 8760 hrs/year]

8760 hrs/year = 365 days/year X 24 hours/day

Example Process emissions:

PAINT SPRAY BOOTH: NO DEP permits, NO federally enforceable restrictions apply, NO limits on the operation.

MAXIMUM CAPACITY & EQUIPMENT DESIGN:

- spray gun: 3.0 gallons/hour
- paint, each gallon contains 5.5 lbs VOC/gallon and 3.5 lbs solids/gallon (max used by the facility)
- 90% overspray

The VOC emission POTENTIAL from this equipment would be:

3.0 gallons/hour x 5.5 pounds of VOC/gallon x 8760 hours per year x 1 ton/2000 pounds = 72.27 tons per year

The Particulate emission potential from this equipment would be:

3.0 gallons/hour x 3.5 pounds of solids/gallon x 0.90 weight fraction oversprayed x 8760 hours/year x 1 ton/2000 pounds = 41.4 TPY.

This booth has potential emissions greater than the major source threshold for VOC.

To utilize the above equation to calculate ACTUAL emissions, substitute ACTUAL GALLONS used in the previous calendar year for "(3 gal/hr)x(8760 hrs/year)" .

If for example, the company used 5,678 gallons of paint in 1995 the ACTUAL emissions would be:

5,678 gal/year X 5.5 #VOC/gal X 1 ton/2000# = 15.6 Ton of VOC

If the same source were operating a spray booth covered by the exemption under 310 CMR 7.03(13), the VOC emission potential would be capped at 2.5 tons monthly and 30 tons per year for the entire facility and particulate emissions would be calculated using 97% capture provided that the filters are installed properly and maintained properly.

Also, if the company had restricted usage and emissions through the DEP permitting process under 310 CMR 7.02(2) or 7.02(12), those restrictions would be included in the calculation.

With regard filters to control particulate emissions due to overspray, if the spray booth does not have an enforceable restriction (either in a Department written approval or as required in the exemption under 310 CMR 7.03(13)) requiring the filters, then no control efficiency may be credited in the potential emissions calculation even if filters are in use.

AP 42 Emission Factors: Fuel Utilization Facility (Tons per Year)
(For use only when no other information is available)

Residual Oil (#6):

*PART:12.0#/1000GAL x (%S) x (gal/hr) x (8760hr/yr) x (ton/2000#)=
PM10: 7.8#/1000GAL x (%S) x (gal/hr) x (8760hr/yr) x (ton/2000#)=
*SOX:158.6#/1000GAL x (%S) x (gal/hr) x (8760hr/yr) x (ton/2000#)=
**NOX: 55.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
VOC: 1.13#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
CO: 5.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
LEAD: 0.0042#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =

Residual Oil (#4):

*PART: 7.0#/1000GAL x (%S) x (gal/hr) x (8760hr/yr) x (ton/2000#)=
PM10: 5.19#/1000GAL x (%S) x (gal/hr) x (8760hr/yr) x (ton/2000#)=
*SOX: 150.0#/1000GAL x (%S) x (gal/hr) x (8760hr/yr) x (ton/2000#)=
**NOX: 55.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
VOC: 0.76#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
CO: 5.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
LEAD: 0.0004#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =

Distillate Oil (#1 & #2):

*PART: 2.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
PM10: 1.08#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
*SOX: 143.6#/1000GAL x (S%) x (gal/hr) x (8760hr/yr) x (ton/2000#)=
NOX: 20.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
VOC: 0.34#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
CO: 5.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
LEAD: 0.0004#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =

Natural Gas:
PART: 3.0#/MMCF x (cf/hr) x (8760hr/yr) x (ton/2000#) =
PM10: 3.0#/MMCF x (cf/hr) x (8760hr/yr) x (ton/2000#) =
SOX: 0.6#/MMCF x (cf/hr) x (8760hr/yr) x (ton/2000#) =
NOX:* 140.0#/MMCF x (cf/hr) x (8760hr/yr) x (ton/2000#) =
VOC:*** 2.8#/MMCF x (cf/hr) x (8760hr/yr) x (ton/2000#) =
CO:*** 35.0#/MMCF x (cf/hr) x (8760hr/yr) x (ton/2000#) =

*** for units > 100mmBtu/hr use: NOx = 550#/MMCF
VOC = 1.4#/MMCF and
CO = 40#/MMCF

***more restrictive limits are contained in 310 CMR 7.00 and given blow**

****NOX RACT establishes limits for certain boilers and engines**

Fuel Utilization Facility Particulate Emission Rate:

Facility Size Million Btu/hr Input	Emission Limitation lbs. (particulate)/million Btu		
	New	Existing	Existing (critical area of concern)
3 - 250	0.10	0.15	0.12
> 250	0.05*	0.15	0.12

* An emission rate of 0.10 lbs. (particulate) per million Btu will be allowed if a person is using equipment designed to control or reduce sulfur dioxide at the same time or in the same process so that the provisions of 310 CMR 7.05 are satisfied.

**NOX RACT establishes limits for certain boilers and engines

Particulate Emission Rate:

Fuel Utilization Facilities: City of Worcester

Facility Size Million Btu/hr input	Fuel Type	Emission Limitation-lbs./million Btu New	 Existing
3 - 250	solid fuel residual fuel distillate oil gas	0.10 0.10 0.05 0.05	0.12 0.12 0.10 0.10
> 250	solid fuel residual fuel distillate oil gas	0.10 0.05* 0.05 0.05	0.12 0.12 0.10 0.10

* An emission rate of 0.10 lbs. (particulate) per million Btu will be allowed if a person is using equipment designed to control or reduce sulfur dioxide at the same time or in the same process so that the provisions of 310 CMR 7.05 are satisfied.

**NOX RACT establishes limits for certain boilers and engines

SULFUR IN FUEL - for the purpose of 310 CMR 7.05, sulfur in fuel is as follows:

(a) Oil

2% sulfur content = 1.10 lbs of sulfur per million B.T.U.heat release potential
1% sulfur content = 0.55 lbs of sulfur per million B.T.U. heat release potential
0.5% sulfur content = 0.28 lbs of sulfur per million B.T.U. heat release potential.

(b) Coal

1.43% sulfur content = 1.10 lbs of sulfur per million B.T.U. heat release potential (assuming 13,000 B.t.u./lb)
0.72% sulfur content = 0.55 lbs of sulfur per million B.T.U. heat release potential (assuming 13,000 B.t.u./lbs)
0.36% sulfur content = 0.28 lbs of sulfur per million B.T.U. heat release potential (assuming 13,000 B.T.U./lbs)

Fossil Fuel Heat Values:

FUEL TYPE	SULFUR CONTENT % by weight	(S) lbs/MMBtu	HEAT VALUE Btu/gal
NO. 6	1%	0.55	147,000
NO. 6	2.2%	1.21	150,000
NO. 6	0.5%	0.28	142,000
NO. 4	0.5%	0.28	142,000
NO. 4 or 5	1%	0.55	147,000
NO. 1 or 2	0.3%	0.17	140,000

Nitrogen Oxides (NO_x): use the following only when no other information is available:

Fuel Utilization Facility Btu/hr	Fuel of Use	NO_x emission rate
> 100 million	oil	67 lbs /1000 gal burned
0.5 to 100 million	residual fuel oil	55 lbs / 1000 gal burned
0.5 to 100 million	distillate fuel oil	20 lbs / 1000 gal burned
< 0.5 million	distillate fuel oil	18 lbs / 1000 gal burned
> 100 million	gas	550 lbs / 10^6 cubic feet
10 to 100 million	gas	140 lbs / 10^6 cubic feet
< 10 million	gas	100 lbs / 10^6 cubic feet

Example Calculation:

BOILERS: NO DEP permits (installed prior to 1972 therefore considered an existing facility), particulate and sulfur limits of 0.15#/mmbtu and 1% S No 6 fuel (specified in the regulations). No other federally enforceable restrictions apply, no limits on the hours of operation.

FUF: 2 boilers with maximum capacity of 23 gal/hour
2 x 23 gal/hour x 8760 hours/year = 402,960 gal/year

147,000 Btu/gal heat value
1% sulfur content = 0.55 lbs of sulfur per million B.T.U. heat release potential

Residual Oil (#6): (POTENTIAL EMISSIONS CALC) tons/year

PART: 0.15lbs particulate/mmBtu X 402,960 gal/yr X 147,000Btu/gal X ton/2000Lbs = 4.3Tons/year

PM10: 7.8#/1000GAL x (%S) x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (1) x (402,960) x "" = 15.7

SOX: 0.55lbsS/mmBtu X 2SO_2/S X 147,000 Btu/gal X 402,960 gal/yr X 1Ton/2000lbs = 32.6Tons/year

NOX: 55.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (402,960) x "" = 11.08

VOC:1.13#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (402,960) x "" = 0.23

CO: 5.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (402,960) x "" = 1.01

LEAD: 0.0042#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (402,960) x "" = 0.000846

These boilers do not have potential emissions large enough to be considered a major source.

To utilize the above calculation in determining ACTUAL emissions, substitute ACTUAL GALLONS BURNED for "(gal/hr) X (8760 hr/year)". For example, the total fuel use for 1995 was 123,456 gallons of 1% NO 6., therefore:

PART: 0.15lbs particulate/mmBtu X 123,456 gal/yr X 147,000Btu/gal X ton/2000Lbs = 1.4 Tons/year

PM10: 7.8#/1000GAL x (%S) x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (1) x (123,456) x "" = 0.5

SOX: 0.55lbsS/mmBtu X 2 SO_2/S X 147,000 Btu/gal X 123,456 gal/yr X 1Ton/2000lbs = 10 Tons/year

NOX: 55.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (123,456) x "" = 3.4

VOC:1.13#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (123,456) x "" = 0.1

CO: 5.0#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (123,456) x "" = 0.3

LEAD: 0.0042#/1000GAL x (gal/hr) x (8760hr/yr) x (ton/2000#) =
"" x (123,456) x "" = 0.0003

AP 42 Emission Factor for Incinerator emissions: (tons per year)

Pathological

PART: 8.0#/ton burned x (ton/hr) x (8760hr/yr) x (ton/2000#) =
PM10: 5.92#/ton burned x (ton/hr) x (8760hr/yr) x (ton/2000#) =
NOX: 3.0#/ton burned x (ton/hr) x (8760hr/yr) x (ton/2000#) =
VOC: 10.0#/ton burned x (ton/hr) x (8760hr/yr) x (ton/2000#) =

To utilize the above calculation in determining ACTUAL emissions, substitute "ACTUAL TONS BURNED/YEAR" for "(ton/hr)X(8760 hr/year)".

310 CMR 7.02(15) U 50% or 25% Facility Emission Cap Notification.

(a) 1. 310 CMR 7.02(15) is an alternative means for an owner or operator to establish an emission cap on a facility's federal potential to emit. An owner or operator complying with 310 CMR 7.02(15) will no longer be subject to the restrictions established in the facility's RES granted pursuant to 310 CMR 7.02(12), or the requirement to obtain an operating permit pursuant to 310 CMR 7.00: Appendix C after the Department has returned to the owner or operator a copy of the processed notification form.

2. Failure to comply with the emission cap set forth at 310 CMR 7.02(15)(e) or (f) means that an owner or operator is subject to all previously applicable requirements, including but not limited to, 42 U.S.C. §7401, §112 (Title III), §501 (Title V) and 40 CFR §52.21, or 310 CMR 7.18 (only where applicability is determined by the facility's potential to emit), 310 CMR 7.19, 310 CMR 7.00:Appendix A and/or 310 CMR 7.00:Appendix C.

3. Applicability of §112 (Title III) may be avoided pursuant to 310 CMR 7.02(15) only where the owner or operator complies with 310 CMR 7.02(15) prior to the first substantive requirement of the applicable MACT standard. The first compliance date is defined as the date an owner or operator must comply with an emission limitation or other substantive regulatory requirement.

(b) Operation under 310 CMR 7.02(15) does not relax or eliminate any emission limitation(s), or recordkeeping requirement established by regulation or previously issued source specific plan approval(s) or emission control plan(s). Annual emission limitations established by regulation or source specific plan approval or emission control plan, may not be less stringent than the emission limitations established at 310 CMR 7.02(15)(e) and (f).

(c) Notwithstanding 310 CMR 7.02(15)(a), an owner or operator is subject to preconstruction plan approval pursuant to 310 CMR 7.02(2) for future construction, substantial reconstruction or alteration at the facility.

(d) An owner or operator electing to comply with 310 CMR 7.02(15) shall notify the Department on forms provided by the Department, of his/her intentions to operate under one of the emission caps established at 310 CMR 7.02(15)(e) or (f) below, and that the facility's actual emissions in the prior calendar year were equal to or less than the emission cap. This facility wide emission cap shall remain in effect until the owner or operator notifies the Department.

(e) For owners or operators electing 50% emission cap, in every 12-month period (rolling 12-month), the potential and actual emissions of the facility shall be less than or equal to the following limitations:

1. 25 tons per year of VOC or NO_x, or 50 tons per year of any other regulated air pollutant;

2. 5 tons per year of a single HAP;

3. 12.5 tons per year of any combination of HAPs; and

4. 50% of any lesser threshold for a single HAP that the EPA may establish by rule.

(f) For owners or operators electing 25% emission cap, in every 12-month period (rolling 12-month), the potential and actual emissions of the facility shall be less than or equal to the following limitations:

1. 15 tons per year of VOC or NO_x, or 25 tons per year of any other regulated air pollutant;

2. 2.5 tons per year of a single HAP;

3. 6.25 tons per year of any combination of HAPs, and
4. 25% of any lesser threshold for a single HAP that the EPA may establish by rule.

(g) The owner or operator may take into account the operation of air pollution control equipment when calculating the facility's potential emissions, if the equipment is required by Federal or State regulations, or operated in accordance with 310 CMR 7.02(4) or 7.03, or an emission control plan issued pursuant to 310 CMR 7.18 or 310 CMR 7.19.

(h) The owner or operator electing to operate under one of the emission caps established at 310 CMR 7.02(15)(e) or (f), shall establish and maintain records of actual emissions. Such information shall be summarized in a monthly log, maintained on site for five years, be made available to the Department or EPA staff upon request, and contain the following items where applicable:

1. <u>Coating or Solvent Usage.</u>
   a. A list of process related coatings, solvents, inks and adhesives in use. This list shall include: information on the VOC and HAPs content in lbs per gallon as applied;
   b. A description of production equipment including type, make and

model; maximum design process rate or throughput; control device(s) type and description (if any); and a description of the coating/solvent application/drying method(s) employed;

c. A monthly log of the gallons consumed of each production solvent (including solvents used in clean-up and surface preparation), coating, ink and adhesive used; and

d. All purchase orders, invoices, and other documents to support information in the monthly log; and

e. The emissions of VOC from any coating used in small amounts are exempt from the emission limitations provided the amount of all coatings exempted does not exceed 55 gallons on a rolling 12 month period. A list of coatings used in small amounts shall be established and records of the consumption of these coatings shall be maintained.

2. Organic Liquid Storage.

a. A monthly log identifying the liquid stored and monthly throughput;

b. Information on the tank design and specifications including control equipment; and

c. The emissions of VOC from any coating used in small amounts are exempt from the emission limitations provided the amount of all coatings exempted does not exceed 55 gallons on a rolling 12 month period. A list of coatings used in small amounts shall be established and records of the consumption of these coatings shall be maintained.

3. Fuel Utilization Facility.

a. Information on equipment type, make and model, maximum power input/output, minimum operating temperature and capacity, control equipment and all source test information;

b. A monthly log of hours of operation, fuel type, fuel usage in gallons or tons as appropriate, fuel heating value, percent sulfur for fuel oil and coal; and

c. All purchase orders, invoices, and other documents to support information in the monthly log.

4. Air Pollution Control Equipment.

a. Information on equipment type and description, make and model, and emission units served by the control unit;

b. Information on equipment design including where applicable: pollutants(s) controlled; control effectiveness; maximum design or rated capacity; inlet and outlet temperatures, and concentrations

for each pollutant controlled; catalyst data (type, material, life, volume, space velocity, ammonia injection rate and temperature); baghouse data (design, cleaning method, fabric material, flow rate, air/cloth ratio); electrostatic precipitator data (number of fields, cleaning method, and power input); scrubber data (type, design, sorbent type, pressure drop); other design data as appropriate; all source test information; and

c. A monthly log of hours of operation including notation of any control equipment breakdowns, upsets, repairs, maintenance and any other deviations from design parameters.

5. Not otherwise classified Process.

a. Information on the process and equipment including the following: equipment type, description, make and model, maximum design process rate or throughput, control device(s) type and description (if any);

b. Any additional information requested in writing by the Department;

c. A monthly log of operating hours, each raw material used and its amount; and

d. Purchase orders, invoices, and other documents to support information in the monthly log.

(i) For the purpose of determining compliance with the emission cap established at 310 CMR 7.02(15)(e), the owner or operator shall submit to the Department an annual emissions statement form. The emissions statement shall be signed by the owner or operator and certify that the information provided is accurate and true in accordance with 310 CMR 7.01(2).

(j) Notwithstanding 310 CMR 7.02(15)(i), in order to document compliance and maintain an emissions inventory, the Department may require reporting from any facility emitting emissions less than or equal to the emission cap established at 310 CMR 7.02(15)(f).